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ARCHITECT AND ARCHITECTURE THEN AND NOW

AN ESSAY ON HUMAN PLANNING

BY

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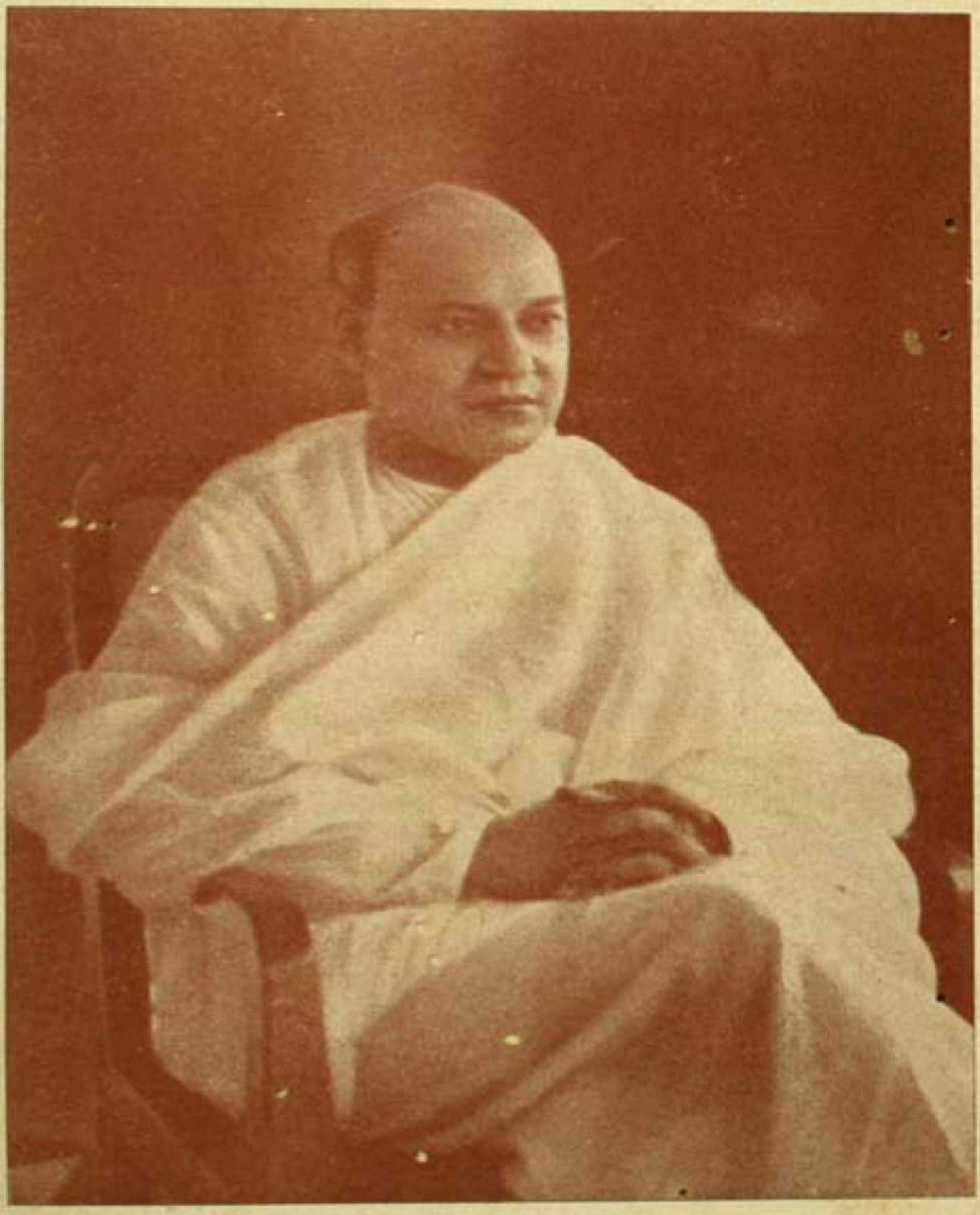

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TO

PROFESSOR PRAMATHANATH BANERJEE, M.A.,
B.L., P.R.S., BARRISTER-AT-LAW,
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THIS BOOK IS DEDICATED

AS A TOKEN OF DEEP GRATITUDE FOR THE UNGRUDGING SYMPATHY AND HELP THE AUTHOR RECEIVED IN HIS ENDEAVOURS TO ESTABLISH A SCHOOL OF INDIAN ARCHITECTURE AND REGIONAL PLANNING AND FOR HIS PRACTICAL ADVICE AND ENCOURAGEMENT WHICH ALONE MADE IT POSSIBLE FOR THIS SUBJECT TO FIND ITS LEGITIMATE PLACE IN THE SCHEME OF UNIVERSITY EDUCATION IN THIS COUNTRY.

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FOREWORD

After obtaining her Freedom, India needs re-adjustment of her life principles. Her life has to be replanned, exalted and attuned to National and International welfare. With her great spiritual force India is destined to evolve a Human Social Order which will ameliorate the lot of the masses all over the world.

The argument and method as to how can that Order be best achieved have been the principal theme of this thoughtful compilation. The author suggests early establishment of an All-India Institute of Architecture and Regional Planning in this country with the object of training students in the complex subject of National Planning and its proper execution. According to the author, only well-planned cities and village groups with national architectural environments can simultaneously regulate and elevate all aspects of Indian life and action.

As it appears, the scheme and syllabus of the proposed School, adopted by the University of Calcutta, are intended to train students to plan not only in relation to advanced technical methods but also in relation to Social organisation. Culture, political economy, law and administration will be treated with special reference to their Human application. The School will teach rational co-ordination of various items of human thought and

activity in a manner which has not been attempted by any existing institution in India. It will offer an integrated philosophy of building planning, based on a high level of technique, will evolve a new standard of aesthetics and ethics.

Sri Srischandra Chatterjee is widely known for his indefatigable efforts to resuscitate Indian Architecture against tremendous oppositions. He has created a new school of thought. His talents have been well appreciated in India and abroad. His sacrifices in the cause have been unique. It may be hoped that the Government of Indian Union will actively co-operate with these nation-building activities.

CALCUTTA,

The 24th May, 1948.

B. C. Roy

PREMIER, WEST BENGAL.

INTRODUCTION

Sri Srischandra Chatterjee, the author of this admirable brochure, needs no introduction. For over twenty years he has laboured for the restoration of the study and practice of Indian architecture in this country with indefatigable zeal. He rightly regrets that under foreign domination we forgot our ancient heritage in the field of architecture and thoughtlessly adopted incongruous innovations. His strenuous efforts, often single handed, to restore our ancient glory in this sphere cannot but evoke admiration in the minds of all cultured people who give thought to this important subject which must necessarily form an inalienable and indispensable part of the framework of our national progress.

With a mind well-equipped for this great mission, Sri Chatterjee has interpreted the 'soul' of Indian architecture from various angles of vision. He has shown in this small book how the ancient masters of Indian architecture expressed themselves religiously, ethically, and aesthetically in their conception, design and construction of magnificent temples and other monumental structures, which are to-day, and have always been, living witnesses of their unique greatness and excellence in this field.

The author is also well versed in the history and growth of European architecture, and has ably analysed and interpreted its special features and significance.

One ought to realise that like all living organisations, architecture, if it is to be a living science, must be progressive and dynamic in its outlook. Therefore, Indian architects, while receiving inspiration from the undying spirit of their ancient heritage, must keep pace with the environments

of modern world. They must equip themselves with the essential attributes of modern life which can only be acquired by an up-to-date general education. Sri Chatterjee is trying very hard for the establishment of an Indian School of Architecture and the above fact has not been lost sight of by him in preparing the courses of studies of the proposed Institution. In this connection, the author's use of the expression "Human Planning" along with "Architecture" is very significant. I only wish that his effort in establishing an ideal School of Architecture be crowned with success in the very near future.

In conclusion, I would, as an engineer, like to state that modern architects and engineers must work in close co-ordination. The old barrier which used to exist and unfortunately even now persists in certain quarters, between these two branches of human endeavours ought to disappear. In all their activities engineers and architects must join their hands together.

I commend this book to all who are interested in the development to full stature of the art and science of architecture in this country. The author Sri Sris Chatterjee deserves congratulations on the timely publication of this inspiring and interesting booklet.

H. F. Blanford

CALCUTTA,
The 2nd June, 1948.

Ex-President,
INSTITUTION OF ENGINEERS (INDIA).

ARCHITECT AND ARCHITECTURE: THEN AND NOW

AN ESSAY ON HUMAN PLANNING

This paper is intended to treat briefly with the comparative analysis of the ideals of ancient architects in India and abroad and their works, as well as the degeneration of most of the present architectural arts in this country due principally to the anti-national anti-social education and training imparted to Indian architects. India's outlook on Life and Living and the Ideal of Indian Architecture have differed for thousands of years from those of the Westerners. India of to-day must of course be kept abreast of all useful up-to-date developments in Science, Technology, Design, Construction and Building Materials. Yet all progressive developments of her arts must have to be rooted on Indian culture and her great architectural traditions which once secured for herself the most honoured place in the Hall of Civilization. Liberated as India has been, she will have to guide the destiny of the world and contribute laregly to the making of a new humane civilization. The University of Calcutta has desired to establish a SCHOOL OF INDIAN ARCHITECTURE AND REGIONAL PLANNING so as to train graduates on correct lines. Some concise idea of the Scheme and Syllabus has been given herein. It is suggested that, as the most vital and immediate measure, the covetous enterprise and anti-Indian activity of the practising architects and civil engineers in this country have to be retarded, and gradually reformed, with the erection of economic, attractive, model structures in neo-Indian styles.

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One is afraid that anti-national education of architects in this country has been mainly responsible for the present lamentable state of Indian Architecture. The usual practice of most of the modern architects in India, trained in the Western schools of thought, is not conducive to original conceptions concerning planning and designing in national styles with dignified feel for the reason that their work is pursued in particular grooves and pertains mostly to structures of one and the same class and same style of Western import the detail of the composition and construction of which is accepted as established. Hence the students and apprentices, trained in their offices, can not possibly learn the need of investigation in the theory of structures and architectural styles of indigenous origin. An All-India Academy of Indian Architecture should, therefore, be quickly established in the country as predecessor of the contemplated School with a view to counteracting the anti-social activities of the architects, by demonstrating building constructions in really Indian styles and, later on, training student apprentices in proper manner compatible with the ideals of the University School.

The students of a school of architecture in modern India are deprived of the special knowledge of architecture as a creative art. The laws governing unvarying principles of architectural composition, based upon unerring laws of Nature, perfectly consistent with progressive changes, are not considered by them. Instead of scientific investigation and solution blindly they follow some accepted style of architecture to which they are destined.

Take for instance the case of one particular school of architecture in Western India. There the students have to spend nearly one half of their training periods in the offices of architects endowed with professional education who, generally, have to cater to the capricious dictation of clients most of whom are fanciful to the latest new fashion

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in American architecture. Irrational imitation, or veritable reproduction, of photographic illustration of Ultra-Modern style of architecture now prevalent in the Occident, has fully degraded and disgraced the development of Bombay whose great architectural heritage any country could be proud to possess. Similarly many other modern cities in India have been disgraced and humiliated architecturally. The Indian Institute of Architects in Bombay, mostly controlled by chartered British Architects who have little or no sympathy for the claims of Indian architecture and have little or no knowledge in the art and cultural life of India, has hardly built two per cent of the constructions that were under its control with the attempt at developing indigenous classical styles. And most of the edifices lately erected under its direction may be disliked by competent architects who feel for Indian culture. That school of Architecture was formed not with the object of resuscitating Indian traditional architecture but for manufacturing architectural draftsmen to assist the British architects who have monopolised building trade in this country. The weak specifications they prescribe for buildings, deliberately discarding the most agreeable ones which made ancient structures in this country so very strong and durable as to defy ravages of time for centuries, serve their purpose of utilizing foreign made costly materials and fail to make the structures weatherproof and durable.

Taking advantage of the noninterference of the Indian people unconscious of the situation, and of the ignorance of our Universities, all these have unfortunately been done by the foreign architects who are even to-day controlling technical art education in Delhi and elsewhere in this country. Indian leaders are apathetic to, if not incapable of detecting, their India wide organisation. *The establishment of a truly National Academy of Indian Architecture to erect high class structures all over India, is absolutely*

essential. University school students of architecture will later on be able to get practical training from actual structural construction under the same.

Civil engineering students in India have been receiving inadequate training in advanced mathematics and engineering science and very little education in the subject of Indian architecture. Some little bit of Indian architectural education have been supplemented in recent years because of the incessant agitations we carried for many years in Bengal, Bombay and elsewhere for the rescue of Indian architecture. Bombay students have acquired their mechanically imposed little knowledge in Indian Architecture from the Bombay School of Architecture, nothing from the offices of the architects. They adopted the practice of the offices they were placed in and but very rarely resorted to original investigations. The Royal Institute of British Architects, with its academic, technical eminence and material success, perhaps on account of its too material out-look, could produce but few architects, in this age of so-called Progress, who could be classed with Sir Cristopher Wren whose genius created the charm of the St. Paul's, London. The co-ordinated plan of Sir Cristopher for the general Rebuilding of London following the historic Fire of 1666 was rejected by Charles II under the influence of land-owners and capitalists who always looked for personal gains. Only recently the British and other Planning architects have realised what a great city London would have been had those plans been entirely adopted. A large majority of foreign architects who practised in India for the last fifty years could hardly produce noteworthy structures, barring few exceptions like the General Telegraph Office in Bombay and Medical College in Lucknow, which could favourably compare with the charming old Indian edifices, in traditional styles, fulfilling India's all needs and conditions of those days. The Secretariat and the

Viceregal edifices in New Delhi have been victims of an inconsistently Composite architectural Order with incongruous juxtaposition of various styles, Occidental and Oriental, which, when seen as a whole, destroy architectural unity, aesthetic harmony and balance. The language of their architecture does not evoke any noble sentiment.

The planning of New Delhi, designed under the influence of the general plan of Washington, has failed to stimulate healthy growth of community life, being most inconvenient to most of the inhabitants and rendering functioning of their daily vocations too much expensive. Space and Time factors as well as socio-economic conditions of the large majority of the citizens, who do not possess automobiles, have been ignored altogether. Enforced segregations of the government employees in separate unsocial zones, according to their salaries, have destroyed the spirit of their fellow-feeling. Moreover, it has entailed large recurring expenses concerning maintenance of the city thoroughfares covering much more area than necessary, which cou'd certainly have been saved by good planning.

" Vastusastra," *i.e.*, the canons of Indian Architecture, contains detailed direction for the construction of every kind of structure as well as rules of architectural planning and designing. It deals with chapters on astronomical calculations and religious precepts concerning designing. As the Western arts and culture of m diaeval Europe were controlled by the Church, so all the aesthetic and cultural movements in past India were guided and influenced by the Temples. Supernatural powers of certain mythical beings, metaphysics and mystics, were responsible for the conception of some fine temples. The ' Mahayogi Viswakarma,' the supreme embodiment of all forces, was, just like the court architect Vitruvius of Augustus, not only the grand master of architecture, crafts, ornaments, etc., but also of mechanics, military engineering and weapons

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of war. There was, however, a pronounced difference in the fundamental ideals of Western and Eastern (Indian) arts which is being briefly dealt with in this article.

Simple methods of structural construction in pre-historic India, like those of the ancient Greeks, showed little inventiveness. The functions of arch, vault and other mechanical devices which were utilized by the Romans in adjusting the equilibrium of forces, were probably unknown or little known in India and Greece. The craftsmen conformed to traditional technique achieved by the observance of the laws of gravity, strength being obtained by mass supporting mass, and stability by the resistance of weight acting vertically. Indian architects regarded architecture as an ennobling art, not merely utilitarian, even in pre-historic times. The Vedic Brahmans employed skilled craftsmen for the service of sacrificial rites. Ornamental pillars of later Hindu Temples were designed after the models of the carved posts used in connection with the rites they observed. Subsequently, however, during the times corresponding the Middle Ages in Europe, they developed the technique of structural construction. Intricate roofs and colossal ' sikharas ' were constructed. The conception and construction of the Kailasa Temple in Ellora, scooped out and chiselled of a hard rock, and the temples of Dilwara and Ranpura in Rajpûtana, the Brihadiswar temple in Tanjore, required titanic engineering artistic skill and undaunted zeal. The great dome of the Golgumbaz, Bijapur, testifies to the inventive genius of Indian Architect. Vishnudharmottara, Vastupurushavidhana, Hayasirshapancaratra and Kamikagama have recorded numerous different types of temples in India that required great constructional skill.

The present generation considers that those people lacked training in schools of architecture in modern sense of the term. But, could any one deny their herculean

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achievements ? It should be noted that the architects of Ellora and Tajmahal could not claim membership of any institute of architects, British or American. Yet in ancient India Art and Construction vied with each other, went hand in hand. Applied mechanics and rigid dynamics played their parts in ancient constructions in India.

The Wars of Reformation and the Revival of Antique Art in Italy reduced the Free Masons' Organisation to several disjointed groups which continued to exist as local guilds until the nineteenth century. Guild system existed and flourished in ancient India of Chanakya the Kautilya. Those efficient trade union groups specialized in their particular trades or crafts and economically they were related to other social organizations, a common socio-political bond holding all the groups together irrespective of sectarian, religious and cultural differences. They worked unhampered in active co-operation for the progressive development of their ideals according to their customs or desires. Equality, independence and democracy were enjoyed by each group of craft guilds and tradesmen. Moksha (Salvation *i.e.*, Nirvana) was coveted by all the four castes under Varnasrama. The path of knowledge (Jnan-marga) was sought by the intellectual Brahman and Kshatriya for the attainment of Moksha. The path of works and service (Karma-marga) was assigned for architect, artist and the craftsmen in general, for identical purpose. The path of faith and devotion (Bhakti-marga) was also open to the architect and artist.

In sad contrast with the professional dignity and honest activity of the past architects, the architects of this age have taken a novel way. They have descended to the position of a veritable broker. They retain advisory powers in the appointment of engineering and technical assistants in respect of structures, at the instance of the proprietors, who under their signatures work, without

receiving adequate instructions from them in many cases. Consequently, their thoughtless procedures are subjected to the interferences of dissatisfied clients, often to frequent changes, to the degeneration of Architecture. Considerable time and energy of the architects, who seldom find time to attend to the responsible work of designing, is wasted in arbitration, *i.e.*, in settling disputes between house-owners and their contractors. They are actuated more or less by predominantly personal interests, their primary object being Profit and not Service. Art can never thrive and grow in an atmosphere of sordidly profit-making speculation and pursuit.

The task of architectural education in India as elsewhere is perplexingly entangled by the fact that events are moving very rapidly. The whole tempo of the world is speeded up ; which means that methods, even aims soon get obsolete and are discarded, owing chiefly to the constant opening up of new techniques and inventions. In the case of India educational training in Architecture must be attuned to local conditions and Indian national culture. An Indian Architect must have to be so trained as to become a man of balanced imagination which entails cultivation of the ability to grasp, summarise and correlate facts and situations accrued from different living cultural regions in the Occident and Orient and draw conclusions from them to utilize in materialising his vision. It is this power first to analyse, and then to synthesise, which enables a creative town-planning architect to plan in principle. On this power to co-ordinate and then design, his success pre-eminently lies. It is the new potentialities at his disposal which are the key to a new and balanced life for enormous number of men. The desire for universality is an expression of the need considered to master and co-ordinate the new potentialities. The Scheme and Syllabus jointly prepared, at the instance of the University of Calcutta, by the present

author and Major P. J. Marshall, lately a planning architect of coventry, under the guidance of Mr. P. N. Banerjee, Vice-Chancellor, will, it is presumed, enable to develop the power of analysis and synthesis as well as to co-ordinate the new potentialities.

Post-war Reconstruction in India needs highly trained architects and planners to tackle the complex problems of Regional and City Planning and Development that will demand stupendous building projects, and to remove the obstacles hindering the material, aesthetic and spiritual progress of the people. Besides training planning-architects of a superior order the School will tend to initiate an International Institute of Architects which will not only create world educational and technical standards, but will also help to engender that harmony of creative work between the countries of the world which is essential to lasting Peace. The Syllabus provides all means for encouraging visual education in every possible way, and for developing Taste and Sensibility. Development of Taste and Sensibility and Development of Technical Proficiency are closely connected and, when correctly balanced, will enable the students to develop their power of expression in a natural way. Elementary knowledge of Biology, Anthropology and Psychology (Physical and Social) are considered essential for learning the secrets of Nature, who herself is the greatest architect, and for developing inquisitiveness coupled with creative urge. The process of anthropological diagnosis will eventually help them to conduct researches in Archaeology. In the later stages of the students' training the Theory of Knowledge, Metaphysics and Mysticism, the living soul common to all religions, will unravel the mystery and soul of Indian art and culture, expounding the secret of the eternal cosmic dance of Nataraja, the Creator, as well as the messages of ancient archaeological monuments in India and abroad.

Previous to the Renaissance, during the Middle Ages, architects of Europe were themselves stone-cutters, a Guild who, under the name of Free Masons, built the lofty cathedrals under the guidance of the Clergy. This devoted band of workers without the positive knowledge of mechanics, without, perhaps, personal refinement of art education of modern standard under any established institution then, but with a supreme devotion to the sacred work, for glorifying the CHURCH, guided by monastic saints equally devoted, built heavenward great marvels of art and architecture. One does not know if there is any record to indicate that their training included "Professional Practice" which tempts modern architects to repeat the same style. Vitruvius and Mayamata considered architectural enterprise of the ancient days as religious. The architects of Babylon and Persepolis, Thebes and Karnac, St. Sophia and Alhambra, Parthenon and Notre Dame, Ajanta and Ellora, Dilwara and Mudhera, Udayeswar and Tajmahal, Angkor and Borobudur, were actuated by the same spirit of religious Devotion. The hieratic aspect of Indian architecture and sculpture was closely connected with the spiritual experiences the artists acquired through meditation and realisation of Soul. Non-professional architects of early Indian temples belonged generally to monastic order, being innocent of personal consideration. A great architecture proceeded from a direct intuition of some spiritual truth of life, some significant form of that truth, some development of it in the devoted mind of the pious architect. A great temple with its magnificent 'Nritya Mandapa,' its pillared assembly hall and its vast corridors meant a school for the boys, a college for the scholars, a picture gallery and museum for the masses and a faithful stage for Bharata 'Natyam' and 'Nrityam.' The history of India as that of the world has several times witnessed that great national awakenings were characterised by the regeneration of the fine

arts and literature, and there was always a revival of architecture which held all other fine arts in its embrace. Architecture is the Mother and repository of other fine arts. It was the tree of Indian architecture which branched forth into generous and abundant flowers, fruits and foliage of Ajanta-paintings, Elephanta sculpturings, Dilwara carvings and South Indian bronzes.

After meditating the spiritual truth of what he would express in his work of art, the Indian artist created its form without accepting any material from actual life and physical nature as was and is being done by the artists of the West. Although form, colour, line and design were his physical modes of expression still in using the same never he imitated Nature's outward form but visualised its spiritual harmony with significant pose and symbol which are not traceable in physical nature. He was interpreter of the inner life to the outer and collaborator with the creative life of the Nature. Indian Architecture, Sculpture and Painting were significant expressions of the tenets of Indian Philosophy and Religion, of 'Yoga' and 'Mudra.' As 'Yoga' *i.e.*, psychological discipline enabled a sage to acquire supreme knowledge which is Reality, so the spiritual discipline through mental quietude sustained by the Indian artist empowered him to unify the spirit of his Art with Nature's supreme Reality—*Sat, Chit, Ananda.* In their spiritual symbolic form the sensible and invisible combined in upraising the soul of the seeker of Truth and Beauty. Architecture, Sculpture and Painting are significant colourful shadows of Life-Light. Principles of Nature are communicated by their symbols just like what Sun, Moon and Stars, Music and Poetry do. By harmonising in their designs the organic principles of Nature with the Life-Light, Indian architects and artists created humane architectural arts that were symbols of Love, Truth and God. The aim of the Indian architect, Havell observed, was not to

extract beauty from Nature but to reveal the Life within life, the Noumenon within phenomenon, the Reality within unreality, and the Soul within matter. As that was revealed beauty revealed itself. The Bodh Gaya temple in the case of Brahman resolved itself into Nature worship in the praise of the supernatural in Nature External whereas in the case of the Buddhist it resolved itself into worship through Meditation in the praise of the Divine in Nature Internal. The spirit of the Mahabodhi Temple has moulded the soul of Hinduism.

In expounding the character of two Hindu temples at Kalahasti and at Simachalam in his valuable essay on "The significance of Indian Art," Sri Aurobindo observed : One of the buildings climbs up bold, massive in projection, up-piled in the greatness of a forceful but sure ascent, preserving its range and line to the last, the other soars from the strength of its base, in the grace and emotion of a curving mass to a rounded summit and crowning symbol. There is in both a constant, subtle yet pronounced lessening from the base towards the top, but at each stage a repetition of the same form, the same multiplicity of insistence, the same crowded fullness and indented relief, but one maintains its multiple endeavour and indication to the last, the other ends in a single sign. To find the significance we have first to feel the oneness of the infinity in which this nature and this art live, then see this thronged expression as the sign of the infinite multiplicity which fills this oneness, see in the regular lessening ascent of the edifice the subtler and subtler return from the base on earth to the original unity and seize on the symbolic indication of its close at the top. Not absence of unity but a tremendous unity is revealed. The different styles and motives with ornaments noticed in different provinces in India and Greater India express in different ways the unity of the infinite variations of Indian spirituality and religious feeling

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and the realized union of the human self with the Divine. They suggest the infinite multiplicity in the definite oneness.

Western architecture of early ages was deemed classical when its form harmonised with the rational adjustment of mass, proportion, ornaments, lines and colours. Its aesthetic, emotional and intellectual values were expressed by its secular form and were well apprehended by the ancient Greeks, and afterwards rediscovered by the architects of the Italian Renaissance. Its true spirit depended entirely on the form. But the sky-scraper cathedrals of the Middle ages were tempered with somewhat spiritual charm of their own. The art of Mediaeval Europe that inspired John Ruskin to compose the hymns of 'Seven Lamps of Architecture,' was based on spiritual philosophy underlying the spirit of the eccleciastical structural arts, not in the matter of its material form. The fame of the Gothic cathedrals rests not on the Trinity speculations of their general proportions, not on the motif of the Rosa Mystica, but on the spirituality of their Madonnas, Apostles, Saints and Crucifixes. Those who had the privilege to tour in Europe and America will admit that there the peoples are united in their national ideals and activities. They stick to their inherited culture. They zealously maintain the characteristics of their national architecture. The German town with Gothic houses carried them back to the mysticism of mediaeval Europe. In the Italian town they found the vestiges of the culture of the great centuries of the Renaissance, with a Romanesque or Roman building as a background not out of harmony with the general character of the city. The tracery from the campanile of Giotto at Florence records the nation's spiritual progress, through the glorious fights, and is a fixation of man's thinking and a true index of his activity and artistic achievements. In the Parthenon or in Rheims cathedral there is an immortal reminder of the stirring flights of the human spirit.

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The Greeks produced their Parthenon under the direction of Phedias which radiates the highest aesthetic beauty of all successive ages in Europe. The people of the Middle Ages, with their asceticism, built skyward towards heaven with that great religious fervour that resulted in those fine Gothic cathedrals.

The ancient architecture in India, in its inherent spirit and character, was purely symbolical, spiritual. It could not and can not be judged by merely its form. It appears intelligible, sublime, to only those thinkers who possess the power to realise its symbolic meaning and value from the latent spirit ennobling the structure emanated from the aggregation of its mass, shape, lines and colours and characterised by its dignity and power. A specimen of good Indian architecture can not be judged from the synthesis of its physical details. The correct way is to concentrate upon the entire mass of the suprarational composition and draw conclusion from its spiritual significance in a calm impassive atmosphere with a background of the Nature eternal. The beauty in Indian Art and Architecture is not conspicuous in form. It belongs only to inherent spirit and can be apprehended by spiritual vision only. The temple cities in ancient India like Palitana, Vijaynagaram, Srirangam, Bhuvaneswar, Baranasi and Pattan were the architectural expressions of Sanatan Hindu culture in all its phases and aspects. Any important temple of India of the past, particularly in Mediaeval India, evoked cosmic spirit and elevated the mind of the onlooker to the realm of Infinity,—the eternal blissful abode of the Divine Deity, under the golden canopy of the Light Divine.

The art of the Greek design complied with the religious conventions consistently with astronomic and atmospheric conditions, and salubrity of sites. The houses of the Gods were erected in the open, hypethral to Jupiter of the Lightning, to Heaven, the Sun, the Moon; for both the

appearance and effect of these gods we see present in the open,—the endless world of light. To the spirits of Minerva, —the goddess of Power, to Mars,—the god of War, and to Hercules,—the god of Strength, Doric temples were dedicated; for to these gods, because of their physical strength, severe buildings ought to be erected without embellishment. Corinthian temples with all their wealth of decorative details were suited to Venus,—the goddess of Beauty. Corinthian styles were suited to Flora, Prosperpine and Nymphs; for to these goddesses, on account of their sweet, melodious nature, architectural ornamentations in shape of flowers, foliage, spirals and volutes were offered. To Juno,—the consort of Jupiter, to Diana,—the daughter of Zeus and the goddess of the chase, and to Father Bacchus,—the god of Wine, were assigned Ionic temples that avoided the severe, masculine character of the Doric and also the delicate, feminine temper of the Corinthian.

Whereas the Reformation in Europe with all its opposition to the use of graven images or pictures in eccleciastical rites and rituals divorced Art from Religion, the universities of the modern West banished art-philosophy of the popular christianity of the Middle Ages and substituted an academic code which, gradually, strengthened by modern Materialism, put an end to all national art traditions in the Occident. The modern architects of the West, consequently, have been detached from their national mooring. Asia has been vitally influenced by Western Materialism. Her art and culture have been subjected to onslaughts.

True Art is the representation of a noble idea in matter. The 'Sthapati,' in order to represent that noble idea, has to select a sympathetic medium for demonstrating it to the awakening of spiritual soul. His art should bring forth a healthy emotion. The success of his demonstration depends upon his technical skill in executing it. The Western art is commonly understood to mean the copying

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of nature's form visible to our eyes. Had it meant nothing more, it could have no application to architecture and music, and but a partial application to poetry and dancing. But it also means that in the creation of art the Western artist generally imitates the methods of Nature in modelling her organisms by which these organisms are endowed with an expression of the functions they perform. Nature's Laws in modelling organisms apply to the ideal organisms of Art as well. Art deals with ideas (relations of matter). Nature also deals with the same. A plant and an animal, conforming with the Laws of Biology, are aggregations of relative matter. Every phase of their existence is a function of their special aggregation of the matter. The architect has to observe the mechanical work performed, the atomic constituents of the elements which compose the organism, the division and the subdivision of organic constituent parts, its general form. The function performed by the organism is expressed in that form even to the form of elementary cells. Art is to imitate this expression. Such a synthetic as well as analytic knowledge of the phenomena of Nature, enables to design the skeleton of a structure.

Nature herself is the greatest architect of all and the greatest inspirer of man in Architecture. The investigations of Crystallographers and of the Physicists have revealed the amazing skill with which she builds her structures. The architecture of a crystal presents both in its exterior form and its internal construction an eye for beauty rivalling that of the greatest artists and an appreciation of geometric principles such as even Euclid could never claim. When she chooses to exert herself, as for instance, when she builds a sparkling diamond out of the blackest coal, her technical perfection to finish puts even the Taj to shame. In the inanimate world of crystals, says Sir C. V. Raman, Nature shows an infinite variety of form, but she is restricted by the severity of her mathematical laws. To

witness her highest efforts, one has to pass into the world of living things and see the delicateness of touch and the exuberance of fancy with which she fashions the tendrils of a creeper, the opening buds of a flower, or the grace and strength of the trees and wild animals of the forest. The Architects of Sanchi, Gupta and Hoysala Schools of architecture in Bhopal, Orissa and Mysore were conscious of nature's crystalization in those regions and her fanciful forms in creating fauna and flora, forest and foliage as they designed and constructed the wonders of Sanchi, Konark and Halbeid.

Craving for artistic form was latent in the mind of the Neolithic Man (10,000 B.C.) who invented potter's wheel. Even the earliest Nomad was endowed with art instinct. He intended to add something in the form of crude rustic arts to the beautiful creations of Nature. The dancing girl (statuette) and the large number of terracotta female figurines, male terracotta and demoniac figurines and animal models, terracotta plaques, seals, ladies' ornaments and other objects of fine arts found in the excavations at Mohenjo-Daro, Harappa, Pataliputra and elsewhere, prove conclusively that non-Vedic pre-Aryan elements, descendants of the primitive people of the Paleolithic and Neolithic Ages, possessed aesthetic sense that was the resultant of their contemplative vision, their power of comprehension, and generalization, in abstract designs, and their study of the grace and beauty of Nature's forms which they con ceived with romantic imagination. Their artistic, idealistic yet realistic power of observation found eloquent expressions in the masterpieces of animal studies they painted on rock faces. The rail in front of the cave in Kanheri (Salsette, Bombay), of a later age was carved with the design of forceful animal figures of somewhat the same refinement and vigour as are noticed in those primitive paintings. As the knowledge or wisdom in Man slowly and steadily

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awakened under the process of Evolution through successive ages it found more and more distinct expression in painting and other fine arts terminating in eloquent Architecture. Language has been its life long companion. Contemporaneous with the origin and development of languages—which in different geographical and geological regions differed in character—yet flowy and flowery as the languages were with their wealth of 'alamkar' *i.e.*, ornamentation, like the classical Sanskrit and Arabic of enchanting phonetics, melody and rhythm—there evolved and developed all over the human habitation the elegant forms of sublime architecture replete with sculpture, crafts and painting. The silent message of Architecture appealed to the human mind more quickly and more intensively than the language that has had been used as the medium of expressing man's thought. So, Architecture is the revelation of Truth through the rhythm of form expressed in abstract materials. Its universal language has been the best medium of inculcating and propagating cultural ideals and beliefs.

Greek architecture beautifully harmonised with the topographical Nature of mountaineous Greece. Its bold, severe, precise forms have influenced for all times to come the national character of the Greeks. The clear sunshine and temperate climate of the country inspired allocation of large openings in its massive, majestic structures, and the open-to-sky arenas of the Greek ampitheatres. Greek and Roman architects, sculptors and painter-artists treated the robust human body as the highest standard of beauty. The Statement in the fourth Gospel *ii*, 21, refers to the human body as the abode of the Spirit. They used to work out the proportions of temples after the fashion of the organs of a finely-shaped human body which they considered as abodes of the spirits and which the structures were designed to convey. Nature has planned the human body

so that the members correspond in their proportions to its complete configuration. Ancient temples in India, Greece and Italy, likewise observed an exact adjustment of the several members. Temples of the gods, Indian and Greek, adhered to the canons of proportion and symmetry. Their architectural members were subjected to congruous distribution. Standing erect as the embodiment of Siva the Divine in Stone, the great Lingaraj temple of Bhuvaneswar in Orissa commands a supreme distinction.

Hindu temple is an embodiment in architectural form of the individual soul's striving towards 'Moksha-Kaivalya' in which final state it loses its separate entity and merges into the soul universal for communion with the Infinity. The temple which grew out of the very simple altar of the Vedic Brahman representing the organs of the human body in all their details still retains the mystic import of the original Vedic sacrificial hearth. Symbolism is faithfully pursued through the entire range of architectural and sculptural details. The Ground Plan is an irradiation of the central principle enshrined as the Divinity. The body of the temple crowned by the 'amlaka' and the 'kalasa' which draws and closes in all upward movement of lines into one single point, has the very same symbolic significance. The historical and compositional problems of the temple were grouped round the central idea, round its symbolic and ritualistic conception, as a microcosm. The same idea was developed through successive ages as evidenced from the Vedic, Epic, Vedantic and Tantric types. The conceptions of the 'vimana' grew from the Vedic sacrificial altar (Vedika) of the Brahmanas in the midst of its cosmic relations with its surroundings in the 'mandala' to the idea of the cosmic mountain the Kailasa. This Mountain with its Cavern representing the 'Sikhara' above the 'Garbhagriha' was the central idea round which all the details of the temple proper were grouped. There every archi-

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tectural member and every sculpture was a microcosmic image of the macrocosm, the 'Purusha' and the 'Sakti,' the 'Kirtimukha' symbol of the Divine Power, and the 'Amlaka' symbol of the Ether. The messages of the sculptures concord into one unified entirety. Thoughts recorded in various sacred literature caused the origin of particular traditions in architecture evolved out of particular symbolism in the Nagara, Vesara, and Dravida styles of religious architecture. Some of them enriched the metaphysical connotation of physical forms that sprang from the creative genius of the architects. The basis of Indian artistic creation that followed the canons of the Silpasastra was intensely spiritual and intuitive. It was the result of thorough scrutiny of relevant psychological phenomena and an expression in logical form of what was endowed with reasoning.

Knowledge is the echo of the questions asked of Nature. To formulate the question is to create the germ of the answer. Heat, Electricity, Light, Magnetism, Attraction, Gravitation, Chemical Affinity, Cohesion, etc., are names shaped into responsive formulae which so long as they fail to define tangible material conditions add nothing to our intelligence. Osiris, Isis, Horus and Hathor; Jupiter, Vulcan, Diana and Venus; Anu, Bel-Marduk and Shamash; Flaloc and Huitzlipochtli; Vishnu-Surya and Nataraj; Lakshmi and Prajna Paramita, are similar echoes of metaphysical questions. These Gods and Goddesses embody causes and forces which are not referable to human and other material agency, and are formulated in human forms endowed with untraceable force. Other phenomenal modifications of this untraceable force are: firstly, the flickering blaze emanating from the sacrificial fire of the Vedic (Indo-Aryan) Brahman; secondly, the flame from the sacred sacrificial bronze tripod of the priest-emperor Chau of the pre-historic China; and, thirdly, that light of the radiant

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arch symbolizing the halo of the rising Sun over the infinite expanse of the blue ocean in all its creative glory ; another being the flickering flames forming the aura (prabha-mandala) of the Lord Nataraja that perfectly harmonise with the rhythmical force of his cosmic dancing with the supreme joy of creation of Life, which is the resultant arising out of innumerable intersecting forces and infinite series of parallel currents. Mingled with the placid tranquility of the virgin Athena Parthenos, the Goddess of Wisdom, Power, Peace and Prosperity, who was the protectress of the Athenians, this creative force, this lamp of power, was inspirited into her serene ivory face and ivory flesh, into her sparkling eyes of precious stones, her shining raiment of pure gold and her ornament of jewellery. This force, again, exhilerated the majestic composure of the Sun-God of unalloyed gold in the Central American Peruvian Incan temple at Kushko that flashed and scintillated in the light of the day and reflected on the squatting mummies of the Incan emperors wrapped in their robes and mantles of tapestry and colourful feathers. Force is an unforeseen condition of matter of which the sensible universe and all existent bodies are composed,—anything which has extension, occupies space, or is perceptible by the senses.

Whereas Art deals with human ideas represented in matter, Philosophy deals with questions and laws which govern phenomena of Nature. In admissible elements of a mathematical argument, the mathematician solves the question of the unknown quantities, as X and Y, to satisfy the demands of enquiry. To serve the human understanding metaphysical ideas are formulated in pictures and sculptures of material relations wherein the nature of the matter forming the relation and the relation itself are unknown quantities. Science simplifies laws, searching for those laws which have universal application in relation to differential laws.

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Religion formulates and codifies instructive answers to metaphysical and ethical enquiries. The terms in which various phenomena are treated in the history of sculpture are adapted to the popular knowledge of the times, also to regulate Man's actions. The tenet of the Religion, as has been mentioned, is expressed and illumined in Art. The means to modify and adapt it to man's condition and Sense, is, again, Art. Art attempts to embody the belief of God evoked by Nature. A Temple, Mosque, or a Church, attracts congregation of believers in unison with its aesthetic environment in the organism of architectural groupings and settings of chapter-house, ' garbha-mandir,' ' mehrab,' ' liwan,' aisles, corridors and cloisters, crafts, mouldings, sculptures and paintings, enlivened and enchanted by hymns, ' ajans,' sermons and music.

As the organic expression of the eternal thoughts pervading the Vedas and Upanishads, a noble classical architecture was achieved in India of the Imperial Guptas only through a synthesis of all the human values in existing religions. And that Architecture, through ancient Indian Universities, influenced the Art of entire Asia. In the centuries between the tenth and twelvth, the Hindu temple reached the zenith of its perfection, a marvel not only of balanced symbolism but also of asthetic beauty. It is the psychological, sociological and philosophical ignorance which is at the bottom of the religious diversity that has been corrupting the nations. A human architecture like that of Ellora, Elephanta, Khajuraho, Mukteswar, Tajmahal, Notre Dame or Alhambra could dispell all such diversifying ignorance. In order to be enduring a Religion just like Science had to represent objective reality, Sarvapalli Radhakrisnan observed. Science in the sense of attested knowledge, as it furnishes a basis for religious faiths, leads the pathway to the perception of universal Truth. Philosophy goes further to logical inferences from the demonstrated truths

of Science. Science, Philosophy and Religion are each a bridge to Truth. The Vedic seers first proclaimed the identity of the soul of Man with the soul of Nature, and established a truth that claimed direct inspiration from God. Vedic sacrifices brought the sacrificer into direct touch with the Nature. The recitation of hymns transported the soul of the sacrificer to the abode of the God wherefrom the Truth radiates and the hymns transmitted with the Nature-spirits in profound imagery. The Vedic deities as Agni, Surya and Indra (Vayu) took the final form of Brahma, Visnu and Siva respectively and around them was woven, in course of times, a mass of deities constituting the existing Hindu pantheon of Gods and Goddesses. Man's relation to the soul of Nature through a sublime Art guides all conscious search for the Truth. An Architecture like religion which the mankind can readily accept must be a depository for all the eternal values of truth, beauty and spirituality that are harmoniously adjusted to the supreme love principle in religion and ethics, emphasising upon social righteousness and social justice. Advanced religions such as Hinduism, Buddhism, Jainism, Confucianism, Judaism, Muhammadanism and Christianity are based on love principle.

Art multiplies forms and attracts men to their influence. Science helps man to think correcrly. But Art attempts to spare him the trouble of thinking by presenting to him thought embodied in spiritual or material representation. Art is the resultant of the two forces indicating ideal and technical knowledge. Science models the human brain into a well-defined mental apparatus. Art environs the human brain with a series of pictures, symbols and models which are intended to occupy it to the exclusion of individual working. The Vedic seers meditated phenomenons of Nature and visualised pictures and symbols which later on materialised in the painting and sculpture of the Hindu pantheon.

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Twenty years ago the general belief was that Art opposed Science. Now the people no longer expect a scientific discovery to have any repercussions in the realm of Feeling which generates Arts. There was a time when it seemed unnatural for a theory in mathematical physics to meet with an equivalent in the Arts. But both the two are formulated by men living in the same period, exposed to the same general influences and moved by similar impulses. Science results from calculative Thinking and Art from meditative Feeling. The two come from a common stock. The human factor, all the while, plays a much larger part in Art and Architecture than it does in Science.

The philosophy of Art dominates all aspects of philosophy, ethics, metaphysics, even cosmology. Art can no longer be deduced from general philosophy and metaphysical principles. It must be studied, by the scientific methods of inductive psychology, as a human activity emanated from imagination, as the ruling faculty in all creation culminating in Beauty, Truth and Morality. Beauty can not be regarded as a semi-transcendental reality. It must be interpreted as an object of human longing and a perpetual source of peace and enjoyment. Beauty, as judged from the Indian point of view, is subjective, not objective. In Architecture proper, as well as in the Philosophy of Art in general, every allied research must start, not from theoretical assumptions, but from the psychological and sociological data and inference of the aesthetic life.

What then should be the range of knowledge of a Human architect who could be entrusted with the grave responsibility of evolving a Human architecture in New Awakened India ? A very high standard of knowledge and efficiency was considered essential for a Roman architect two thousand years ago. An architect, as recorded by Vitruvius, should be a man of letters, a skilful draftsman, a perfect craftsman, a mathematician, familiar with scientific enquiries, a diligent

student of philosophy, acquainted with music, sound and acoustic, learned in the responses of jurisconsults, familiar with astronomy and astrological calculation as well as history of arts. Indian Vastu-sastra *i.e.*, the 'Science of architecture' denotes all kinds of structures, religious, secular and military. It covers a very wide range of town-planning, laying out gardens, constructing market-places, ports and harbours; making roads, bridges, gateways, triumphal arches and a host of other items including furnitures, ladies' ornaments and house-furnishing. The selection of sites for building and structural-planning arrangements are based on astronomical and astrological calculations. According to Manasara, the 'Sthapati' *i.e.*, Master of Architecture, must be well-versed in all sciences mentioned in the Vastu-sastra. He must know Vedas, and have the qualifications of a supreme Director (Acharya).

So, both in Vastu-sastra and Vitruvius, the science and art of architecture were treated as very wide subjects covering almost all aspects of Man's thinking. Mechanical, technical, technological subjects were not dissociated from the vast science of architectural engineering. The architect had to master these all. Modern monopolisation has mainly been responsible for compartmenting the two professions of Engineer and Architect which even in the middle of the nineteenth century used to be considered as inseparably associated with each other. The same man was both engineer and architect. Now the two professions are separated. The Engineers of to-day are striving, if not actually fighting, for professional supremacy over the Architects to the relentless deterioration of the supreme soul of Architecture.

Vitruvius, who served both as an architect and a keeper of 'war-engines,' recorded many very valuable hints for the benefit of even the modern architect-engineer-builder in respect of architectural planning and construction. Most

of the great Roman architects were full-fledged engineers, civil and military. The architects and engineers of to-day have been grouped into reserved compartments with narrow ideals. They have organised separate Institutions for themselves. In past golden ages, when the flood of architectural creations, through the channel of daring engineering skill, reached a very high water mark, there was no such enforced professional partitioning to impede their remarkable activity.

History, Philosophy, Religion, Science, Mathematics, Fine Arts—all contribute to elevate the soul of man and should be studied, with other technical subjects, by architect-engineers and planners who yearn for professional success. Both visual and mental trainings concerning organic and inorganic forms of nature, the theory and principle of the formation and growth of the earth in relation to the terrestrial globe, study of Cosmology, Geology, Biology with special reference to Anthropology and Ethnology, Psychology, Sociology, Mythology, Legends and Folk-lore, etc., etc., at least in their elementary character, are to be studied by the proposed School students to acquire a very sound foundation and must, gradually, be mastered by them in their long professional life, should they intend to equal themselves to the ancient engineer-architects of vision, ambition and devotion. They will have to denounce the idea of exploitation. They will have to tour and study India and abroad, mix with people, take a stock of their social, cultural, political, economic and other aspects of life and living. After deep study and observation for years some of them gifted with creative imagination will acquire the potent power to express their souls through their Architecture and contribute to evolving a New Social Order for security of the mankind. They will keenly feel the implications of vision and will carry combined vision and feeling into the discipline of expression in their special way. *The*

Indian Architecture of To-morrow should be spiritually forceful, not only functionally useful, so as to elevate and regulate national life and action. The Master of Architecture and Planning, trained under the University and, thereafter, under the Academy of Indian Architecture, will undoubtedly be much better equipped than the Doctor of Philosophy or the Doctor of Science or the Industrialist ally of the Capitalist, for the amelioration of the lot of the bewildered humanity. Great thinkers have now realised that only well-planned garden-cities and co-ordinated village-groups with national architectural environments can simultaneously and properly regulate and elevate all aspects of national life and action. *Economic and Cultural Prosperity of India could be best achieved through the co-ordinating power of superior planning-architects.*

There is no existing International Architectural and Planning Institute whose qualifications would serve as a recognised standard of technical knowledge throughout the world. The University of Calcutta intends to take the lead by establishing such an International Institute of Architects and Planners under its auspices. In the last Inter-Asian Relations Conference held in New Delhi the author of this paper, as a Delegate of Calcutta University, submitted a scheme for organising an Asian Institute of Architecture and Planning in affiliation with the proposed International Institute under the University.

Sir Charles Reilly, O.B.E., M.A., LL.D., F.R.I.B.A., Royal Gold Medalist in Architecture for 1943 (British Empire) and Mrs. Pearl Buck, the Nobel Laureate of U.S.A., have considered that India has a rightful claim to guide the destiny of the New Civilisation that is in the process of making. The latter observed in addressing a meeting at Ohio : " Only the people of the East can frame real and durable organisation for world peace because only they can really comprehend the laws of

human nature. When the West would be able to receive the Wisdom of the East then it would result in the greatest renaissance that the world has ever seen."

Dr. Harvey Wiley Corbett, former President of the Architectural League of New York, Chairman of the Architectural Commission of the World's Fair in Chicago, 1933, Departmental Editor on Architecture of the latest edition of the Encyclopaedia Britannica, and one of the architects responsible for the creation of the Rockfeller Radio Centre of New York, the most gigantic sky-scraper in the World, in reviewing the works of the humble author in "Architecture" of New York observed :—

"We of the West, especially in the U.S.A., concerned primarily with our own progress, commercial and cultural, immeshed in our own problems and difficulties, are hardly conscious of India with her teeming population two or three times the size of our own. There is the oldest continuing civilisation of which we have a record, architecture, sculpture, painting, crafts that have been slowly developing through the centuries while we pride ourselves on our achievements of 200 years at the most.

India is today threatened by the march of Western civilisation. The world may lose so much of real value in art, philosophy and spiritual force that we should look with interest and keen attention to the effort now being successfully made by Mr. Sris Chandra Chatterjee to establish a real Renaissance of Indian Architecture is his own country."

That "Wisdom of the East" and India's "philosophy and spiritual force" will again be interpreted through Indian Architecture and Planning, by the New India of To-morrow. The real soul of *Indian* India will again be symbolised by a new form of significant Indian Architecture of world-wide inspiration to carry the message of Unity through Art in its consistent and daily application to life. The aim of human growth as a dynamic force for beauty

and harmony will reflect on the coming National Architecture of India. It will be dynamic in expression, symbolic of the aspiration and endeavour of all those workers who aim at creating a peaceful charitable humane world through spiritual planning and construction. It will represent the unification of all efforts of art and social equilibrium,—the welding of Art with Life, the knitting of creative yearnings with daily avocations—the beautification of the human ritual of daily life. It will encourage searching after newer forms more definitely expressive of our present day rotten social political economic life elevated to a great life the trodden India has been striving for. It will be the outcome of creative researches to be conducted by the Indians themselves taking the fullest advantage of the latest technological discoveries. It will offer an integrated philosophy of Human Planning.

The suggestions of the present author for the establishment of well equipped laboratories for conducting such creative researches were favourably considered by the Indian Congress National Planning Committee. In the scheme in question it has also been included. As a result of his lengthy discussion with Pandit Jawaharlal Nehru in Bombay on the subject, months ago, the Panditji advocated the importance of training in Architecture and Planning in his memorable Calcutta University Convocation Address. The present courses and syllabus, shown to him, appreciated by him, aim at conducting such researches.

In a letter addressed to the author from Middlesex, 3rd Sept., 1945, Professor Sir Charles Reilly wrote;:—

" It seems to me you have a clear course before you. India not only needs to free herself of the western architectural motives we in our ignorance brought to her, but to erect building as simple and powerful as the best the modern world can produce, yet occasionally and in the right place and for the right purpose to introduce carving

and ornament as beautiful and mysterious as that I saw when I visited the caves of Elephanta. When she has done this she will have given to the world a greater gift than that of any other nation. I like to believe that it is possible and that you are right when you say Indian Architecture with its universal plastic language is a great agency for evoking the spirit of universal brotherhood. I hope that it is so and that India may never again erect the bad European buildings I also saw in Bombay."

India will never be in a position to contribute to framing a real durable organisation for world peace, or to give to the world a great gift, so long her sacred architectural arts and culture will be forced to bear foreign influences and her vigorous art of forceful spiritual impulse will be dislodged by the occidental style which is very suitable for the out-look of the European and American nations.

Great nation-building services will be rendered by beautifying the civic environments with dignified structures. Citizens and students draw inspiration from the dwellings they live in as much as from their environments. National consciousness is aroused in them thereby. Pre-British India had avenues of attractive 'swadeshi' structures, palatial and simple. Tall architectural edifices and small humble attractive dwellings stood side by side with delightfull fusion. The single-storied elegant house-lines, for the use of travellers, flanking the massive gateway of the Taj Mahal, concorded well with the music of the Taj. The humblest abodes belonging to the servile community, surrounding the mighty palace of the Maharana of Udaipur, do never irritate the feeling of a modern art-critic. The avenues of structures along the mysterious streets of antiquated Nepal fill the mind of the tourist with admiration and surprise. With its demonstration of model avenues with home-spun structures, the Institute of Architecture will induce professional architects to compete in matters

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of design. That spirit of healthy rivalry will undoubtedly lead to the development and enrichment of classical Indian arts and crafts and industry. Obviously that will be the easiest and surest means for the rescue of India's Art and Architecture and Culture.

The Institutes of British and American Architects may consider the suggestion to incorporate Indian Architecture in their courses concerning comparative studies in Architecture, and collaborate with the proposed Academy of Indian Architecture for the creation of a Human Architecture. Their assistance will greatly strengthen the Indian Academy. The object of this paper is not to find fault with one or any established institution of architecture but to suggest a different rational approach. "Functional Architecture" has its own aesthetic standards but it does not reflect the soul of India. The assimilation of the universal principles of art and the judicious application of a synthesis of these principles to developing Indian Art and Architecture is quite different from the wholesale adoption of foreign fashion. Architects and others who trample upon the ideals and traditions of the art of India, ought to realise that art is a self-expression of a man's solution of his problems, reflecting the racial and social characteristics—and not in any way a servile imitation. Traditions should be the legitimate basis of Indian architectural style. Architecture varies in expression in response to the needs of different regions of a country in different ages but does not lose its national dignity and character provided its evolution proceeds on traditional lines. Now that India has shaken off foreign political domination she must not tolerate cultural domination. She must reassert her artistic and cultural individuality. In condemning that type of architecture which is merely functional, Sir J. C. Ghosh, Director General of Industries to the Government of India and lately Director, Indian Institute of Science,

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Bangalore, asserts that " Indian life and culture cannot be properly revitalized unless the national Art and Architecture of India are revived." He continues : " In modern town-planning, utilitarian consideration oftentimes completely overshadows our sense of beauty and grace, and buildings not rarely look like pigeon-holes intended to accomodate the maximum number of persons, even though they are built with all modern conveniences. It is necessary that an authoritative body should cry a halt to this process."

All aspects of Indian life—social or economico-political and spiritual or religio-devotional were most nobly expressed in the building craft of the country for a period of five thousand years and more. Not to know this or not to be fully alive to this would be a misfortune for any one who can call himself a cultured man. The necessity of knowing it becomes all the greater for the creative builder. Nations have their special character in their culture and thought as a result of their environment and history. Indian architecture of the past was a result of Indian enviromment and Indian history, and because it harmonised with the latter it was truthful, it was great. Indian architecture of the present, similarly, must have reference to Indian life and culture in order to be truthful and great. No amount of perfect copying of architectural styles evolved under totally different conditions can be made to express the ideals and sentiments and history of India. " The king is dead : long live the king "—Indian architecture is dead, some say ; yes, and we add, long live Indian architecture. Our ancestors live in us—we are the fulfilment of our forebears. Indian architecture in the days of Pallavas and Chalukyas, and Rajputs and Moguls would be at the least an archaistic thing, if it has no reference to present day life. It is for the trained engineer-architect to put new life into the dead forms of styles which evolved in a

society that has passed away. The heritage from our ancestors is great, it is our very own, and we should know how to use it and not cast it aside as something effete and useless. It would be nothing less than high treason to our history and to our latent intellectual and aesthetic powers to reject the accumulated contributions of the past in favour of wholesale borrowings from the stranger which we can only imperfectly understand and appreciate.

The different styles which were evolved whether Classical, Gothic or Renaissance in Europe, or Pallava, Orissan, Pal, Rajput and Mogul in India, were so many languages which enshrined the best effort of the people in the proper perspective of their past heritage and future achievement. An architect should be conscious for these things : what he produces must not be only accidentally beautiful, but must be intentionally so—his creations must be *meant* to be beautiful. For he is the man of Science, and he must, above all, *know*. Obviously one engineer-builder who is ignorant of architecture cannot claim to be a creator in his art. He is nothing but a glorified 'mistri,' humdrum craftsman who does his job as a journey-man worker for his hire. It was something intensely tragic to hear an architect of India express his ignorance of the most elementary things in and the spirit behind the different architectural styles of India, and then to justify his ignorance by declaring that " Indian architecture was no use, it was obsolete." For this mentality ignorance is mainly responsible ; and this ignorance is due to the incompleteness of the curriculum. A student should be properly trained to make him fit for the best and the highest. In training an engineer-architect it should be the aim to qualify him for the highest achievement in his craft. This high achievement will make him not merely clever in applying the principles of his *Science* but to apply them with results that are beautiful to the eye and are also inspiring to the inner mind. He may construct

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a bridge or a storehouse or a public market, but all these should be things of beauty and joy for ever.

"Science has become too technical": says Sir C. V. Raman. The subject matter of science could be defined as being the study of Nature, study of the world about them in all its aspects. There are varying scientific methods like the observational method and the philosophical method. Also, the experimental method which is characteristic of modern science and is considered to be very powerful. Moreover, there is the mathematical method corresponding to the ancient philosophical method. Raman observes the danger of science becoming more technical and more utilitarian in its outlook. It is a pity that the vast majority of non-scientists desired that science should only be utilitarian, that it should serve only commercial, economic and social purposes. The significance of science was intellectual outlook just as it was aesthetics in the art of emotion in poetry. But no scientist was incapable of aesthetics or emotion. Divorced from these two, science would lose much of its force and its creative urge. Science, obviously, leads the way to the study of Nature. It enables the human activity and human soul to perceive as part of humanity in Nature. Science, to-day, has come to be so much technicalised and specialised that the scientist does not seem inclined to perceive the universe in its entirety but observes only a part of it, and that too concerns his own particular branch. The motive power behind science is as much emotional as intellectual. The scientist, like architect and poet, is actuated by the same creative impulse. Should the men of science study, assimilate and appreciate the beauties and phenomenons of Nature—the colour of the sea, the blue of the sky and the dazzling force of lightning—should they listen to the aeolian tunes vibrated by the wind passing through the tree tops in a tropical forest, a new, noble, outlook will dawn on their

minds which will not be possible if they have to conduct their regimented or technicalised experimentations in the dark rooms of the physical laboratories or in the smelling rooms of the chemical laboratories. No one, of course, can discredit the utilitarian aspect of science but it is a mistake to stress it too much. Same arguments are applicable in the case of building-engineering science. *Architecture is becoming too technical, too utilitarian, too material.*

It should be equally known to students of science and art that the Soul of India has lived for ages in the supreme serenity, in the spiritual harmony, generated from the profound stillness of Lord Siva's Gouri-Shankar emerging out of the eternal snows of the Himalayas girdled by the majestic bend of coniferous forest evergreen wherein the mighty Deodar lifts its lordly crown to inspire the innocent mountain-dwellers to sing and dance with divine expressions of devotion. Their melodious chants echoed and re-echoed from tree to tree, from peak to peak, like the drone of a mighty organ that sprayed the sound waves right on the foot of the Everest. The gush of the Himalayan wind roared along the gorge of Cherapunji, the citadel of the cloud messengers, beating times with their exuberant music. The drum-tap words, *bole of mridung*, which regulated the dance of the Manipuri girl concorded with the drum-beating by the rushes of wind. The inspirations of the incessant messages of Peace and Joy of the tropical forest and the sublime tenets of religion which grew out of its philosophy, formed the genesis of the symbolisms of the classical dances of Manipur. The same spiritual fervour prompted the conceptions of the Architecture and Fresco of Ajanta. The messages of the Forest inspired Sir Jagadischandra Bose to contemplate his great researches on Plant life in the Botanical Garden of Darjeeling.

At a lonely spot on the sea-coast South of Madras, the surf beats upon the ruins of an ancient South Indian

temple. Sitting on its gate-stone and gazing out on the never-ending turmoil of foaming waters, one may fitly ruminate on India's great past and her present humiliated state. Dotting the country around and defying the ravages of time stand the magnificent monolithic temples and inimitable rock carvings of Mahaballipuram. The dullest mind cannot fail to be stirred by the heart-reading sight of such ancient architectural and artistic remains.

But it needs an unusually vigorous mind to retain the inspiration received from them and to develop a distinctive school of Human Architecture which seeks to discover the glorious traditions of the past and to translate and adapt them to modern needs.

A Nation's personality expresses itself in various forms, in his songs and dances, his creeds and crafts, his poems and paintings. But it is in his architecture that a nation finds a form which more amply, more intimately and more abidingly fulfils and expresses its special needs and characteristics, tastes and aptitudes, aspirations and dreams, ethical and aesthetic conceptions, and in short, all the complex of its physical and mental needs and drives which combine to form its personality. Indian Architecture has a distinct personality and a message of its own. The long coma of foreign domination from which we are just convalescing has however made us forget the language of this message. This amnesia has to be overcome, the language has to be deciphered and the message interpreted to enable us to re-discover and re-assume our forgotten personality.

BIBLIOGRAPHY

ARTHASASTRA OF KAUTILYA (Translated by Dr. R. Shamashastri).

THE SIGNIFICANCE OF INDIAN ART—Sri Aurobindo.

IDEALS OF INDIAN ART—E. B. Havell.

GAYA AND BUDDHAGAYA—Dr. B. M. Barua.

MAGADHA ARCHITECTURE AND CULTURE—Srischandra Chatterjee.

THE NATURE AND FUNCTION OF ART—Leopold Edilitz.

THE ORIGINS OF ART—Yrjo Hiru.

SPACE, TIME AND ARCHITECTURE—S. Giedion.

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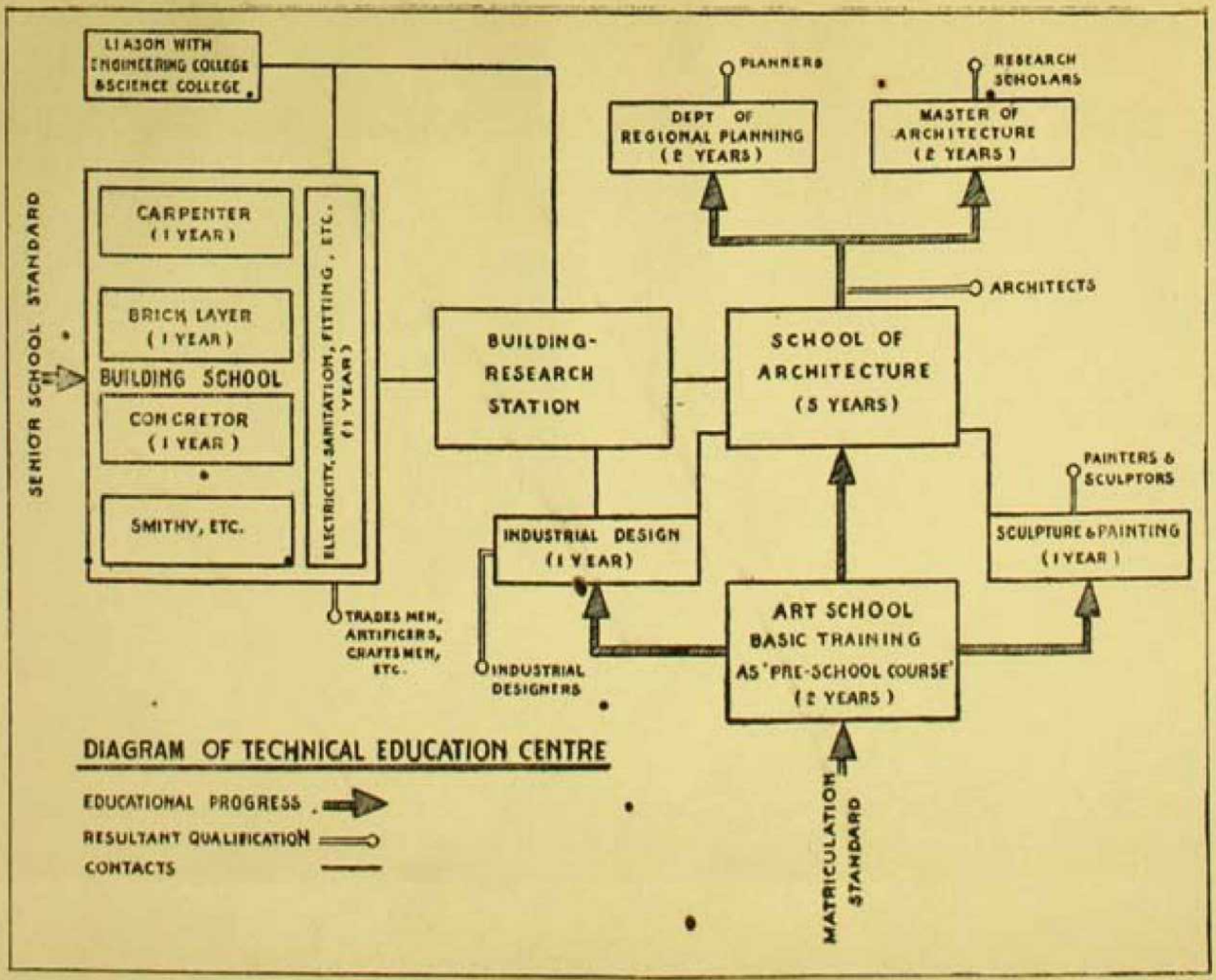
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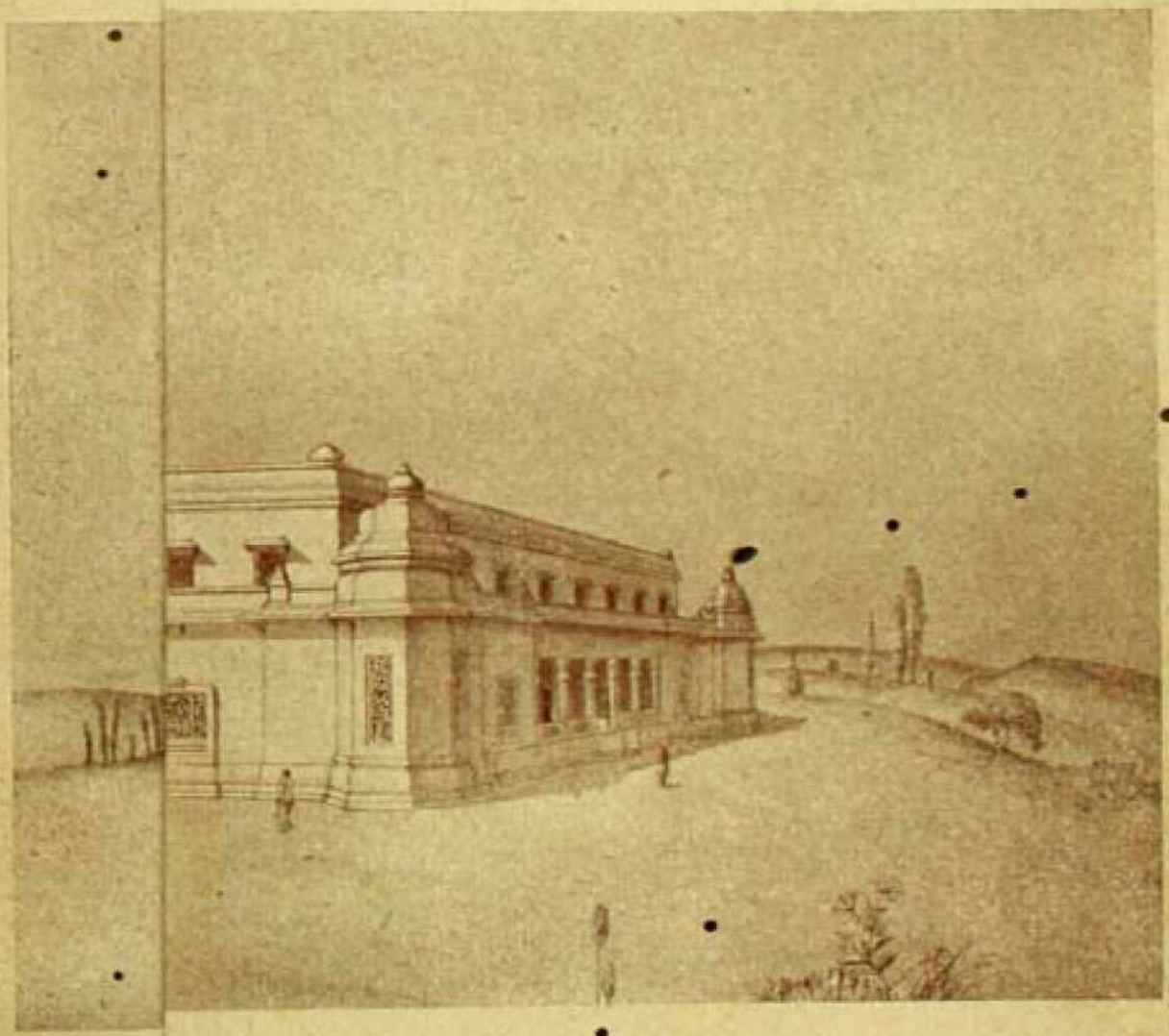
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